

FINAL WORK PLAN ADDENDUM NO. II CONTAMINATED SOIL REMOVAL FORMER NAVAL TRAINING CENTER BAINBRIDGE PORT DEPOSIT, MARYLAND

Prepared For:

DEPARTMENT OF THE NAVY
Atlantic Division
Contract No. N62470-93-D-3032/137
Delivery Order No. 137 - Modifications 5 and 6
EFA Chesapeake - NAVFACENGCOM
901 M Street, S.E., Building 212
Washington, DC 20374-5018

Prepared By:

OHM Remediation Services Corporation 2790 Mosside Boulevard Monroeville, Pennsylvania 15146-2792

Reviewed By:

Daniel W. Bringle

Sr. Project Engineer

Lawrence J. Stearns, PE

Sr. Project Manager

December 22, 1998 OHM Project No. 19568



Table of Contents

			•	Page
List o	f Fig	ures		ii
List o	f Acı	onyms		iii
1.0	Intro	duction	ı	. 1-1
2.0	Scop	pe of W	ork	. 2-1
	2.1	Seque	nce of Activities	. 2-1
	2.2	Suppo	rting Documents	. 2-2
3.0	Site	Work A	Activities	. 3-1
	3.1	Pre-m	obilization Sampling and Analysis	. 3-1
		3.1.1	Disposal Sampling and Analysis	. 3-1
		3.1.2	Delineation Sampling and Analysis	. 3-2
			3.1.2.1 Building 683	3-2
			3.1.2.2 Water Towers 689 and 1054	. 3-2
	3.2	Mobil	ization	. 3-3
	3.3	Install	ation of Erosion and Sediment Controls	. 3-3
	3.4	Cleari	ng	. 3-3
	3.5	Ash P	ile Removal	. 3-4
	3.6	Conta	minated Soil Removal	. 3-4
	3.7	Verifi	cation Sampling and Analysis	. 3-4
		3.7.1	Ash Pile	3-4
		3.7.2	Building 683	3-5
		3.7.3	Water Towers 689 and 1054	3-5
	3.8	Trans	portation and Disposal	3-6
	3.9	Site R	estoration and Demobilization	3-6
		3.9.1	Water Towers and Ash Pile	3-6
		3.9.2	Pesticide Shop	3-6
4.0	Site	Health	and Safety	4-1
Figur	es			
Attac	hmer	nt A - S	heets ES-14 and ES-14A	

List of Figures_

Figure	Title
1	Site Plan
2	Building 683 - Sampling Plan
3	Water Tower 689 - Sampling Plan
4	Water Tower 1054 - Sampling Plan
5	Ash Pile - Sampling Plan
6	Building 683 - Excavation Plan
7	Water Tower 689 - Excavation Plan
8	Water Tower 1054 - Excavation Plan

List of Acronyms_____

Acronym Title	Title		
DDT dichloro-diphenyl-trichloroethane			
E&S Erosion and Sediment			
EPA U.S. Environmental Protection Agency			
MDE Maryland Department of the Environment	t		
MDOT Maryland Department of Transportation			
mg/kg milligram(s) pcr kilogram			
NTCB Naval Training Center Bainbridge, Maryl	and		
OHM Remediation Services Corporation			
ppm part(s) per million			
TPH total petroleum hydrocarbons			



1.0 Introduction

OHM Remediation Services Corporation (OHM) has been contracted by the Navy to perform a contaminated soil removal action as part of an additional site cleanup at the former Naval Training Center at Bainbridge, Maryland (NTCB). This additional work is being performed under Contract No. N62470-93-D-3032, Delivery Order No. 137 as a modification to the original scope for this delivery order (Modifications 5 and 6).

The scope of this additional work is discussed in Section 2.0 and, as will be discussed, many of the work activities are similar in nature to the work previously conducted at the site under the original delivery order. This being the case, several of the procedures developed for the original work will apply. These detailed procedures can be found in the project Work Plan issued to the Navy on April 18, 1997.



2.0 Scope of Work

The scope of work for the additional contaminated soil removal includes the following:

- Modification No. 5 Ash Removal (Gate 27 Area):
 - Provide access to the Ash Pile and upgrade haul road
 - Install previously approved erosion and sediment (E&S) controls
 - Load and dispose off site the nonhazardous ash
 - Conduct verification sampling and analysis
 - Restore site to surrounding conditions.
- Modification No. 6 Water Towers and Pesticide Shop:
 - Determine limits of contaminated soil excavation for Water Towers 689 and 1054 based on lead concentrations
 - Determine limits of pesticide soil contamination at the former Pesticide Shop (Building 683)
 - Install appropriate E&S controls
 - Excavate and dispose off site the excavated contaminated soils
 - Conduct verification sampling and analysis
 - Backfill excavations (as appropriate) with on-site borrow and seed disturbed areas.

The areas requiring contaminated soil removal are shown in Figure 1.

2.1 Sequence of Activities

The field work for this additional removal action is not expected to exceed three to four weeks, therefore, sequencing will be very important. The following sequence of major activities has been developed to minimize delays and maximize productivity at the site; however the sequencing of these activities may be modified to accommodate sampling, analysis and transportation arrangements.

- Conduct pre-mobilization sampling and analysis to define excavation limits and obtain disposal approval
- Mobilize equipment and personnel to the site to begin removal activities
- Install E&S controls around excavation limits and for the Ash Pile removal
- Remove Ash Pile and conduct verification sampling



3.1.2 Delineation Sampling and Analysis

As mentioned above, the limits of excavation were not defined for any of the three areas because every sample collected showed contamination. Therefore, delineation sampling and analysis will be performed to define the lateral limits of excavation. This delineation sampling is discussed below for each area.

3.1.2.1 Building 683

A grid system, as shown in Figure 2, will be established to encompass the entire building location and the storm drain area. Each 20-foot by 20-foot grid will be designated with a unique alphanumeric label for reference purposes throughout the project. One composite sample will be obtained from each of the grids shown for sampling in Figure 2. Each composite will consist of 5 grab samples taken from surface to a depth of 6 inches. Dichloro-diphenyl-trichloroethane (DDT) will be used as an indicator parameter and will be field monitored using a field sampling kit. The results of the field sampling kit will be used to delineate the site. This will reduce the amount of samples sent to the laboratory, thus reducing turnaround time and delays associated with laboratory analysis. Composite samples will be obtained from each sampling grid and field screened. During compositing, the samples will be split, with one-half of the composite being maintained for off-site analysis. Approximately 10 percent of the split samples will be sent to the laboratory for analysis of all contaminants for which cleanup levels have been established.

3.1.2.2 Water Towers 689 and 1054

A circular grid system (as shown in Figures 3 and 4) will be established around each of the previously removed water towers. Previous sampling around each tank indicated the presence of lead in the soil above the discrete sample action level of 400 mg/kg (300 mg/kg for composite samples). Therefore, an area encompassing an additional 10 feet around the outer edge of each tank will be identified for excavation. The soil beyond this excavation limit will require sampling and analysis for delineation purposes.

Each 10-foot wide ring will be divided into 4 quadrants, as shown in Figures 3 and 4. A 3-point composite sample will be obtained from surface to a depth of 6 inches within each quadrant. These composite samples will be sent to the fixed-base laboratory for lead analysis. If the composite lead concentrations exceed the composite action level of 300 mg/kg in the outlying grids, additional sampling will be required beyond the grids shown in the figures.



3.2 Mobilization

OHM will mobilize personnel and equipment from the New Jersey and Pennsylvania facilities as needed to supplement the existing crew on site. The command center, consisting of several field trailers and an assortment of vehicles and equipment, will be already established because of current work being conducted on site by OHM. This command center will be used for the work conducted under this delivery order modification due to its short duration.

3.3 Installation of Erosion and Sediment Controls

Appropriate E&S controls will be established at all four removal sites prior to soil disturbance. The E&S controls for the Ash Pile removal are shown on Sheets ES-14 and ES-14A (Attachment A). These drawings were previously submitted and approved as part of the E&S Control Plan for the Old Landfill Cap Repairs and are included as an attachment to this Work Plan Addendum. The E&S controls for the Ash Pile will include installing a stabilized construction entrance, constructing Sediment Trap B, installing soil berms, and placement of silt fence. Construction details for each of these structures is included in the E&S Control Plan referenced above.

The E&S controls for Building 683 will consist of silt fence placed around the perimeter of the final limits of excavation. These limits will be determined after the delineation sampling and analysis activity is complete. The tentative silt fence configuration for Building 683 is shown in Figure 6. Silt fence will also be used at Water Towers 689 and 1054 after the limits of excavation are determined. An existing asphalt accessway will be used as a truck loading pad in order to keep the haul truck tires free of mud and dirt.

Access to Water Tower 1054 is not readily available. An accessway will be provided from the existing asphalt laydown area to the tower location. Access to the tower will be provided by removing/cutting the brush and weeds for truck access. The root systems will remain and no grubbing will be required since it is estimated that a total of only four tri-axle loads of contaminated soil will require removal. Silt fence will be installed around all excavation limits.

3.4 Clearing

As required, OHM recovery technicians will use chain saws to remove small trees at Water Towers 689 and 1054 within the limits of the silt fence, shown in Figures 7 and 8. The cut trees and branches will be stacked in an area immediately adjacent to each site. A brush hog will be used at Building 683 and Water Towers 689 and 1054 to cut the grass and weeds down to within three



inches of the ground. No clearing will be required at the Ash Pile. No grubbing will be performed at any of the sites. The brush hog will also be utilized to cut the accessway at Water Tower 1054.

3.5 Ash Pile Removal

Initial activities at the Ash Pile site will involve upgrading the existing road located along the south and east portions of the pile. OHM intends to use this road to load disposal trucks. The trucks will depart the site through Gate 27. The road will be upgraded by installing a single layer of 8-ounce per square yard non-woven geotextile on top of the existing road surface. The geotextile will be covered with a minimum of a 6-inch thick layer of Maryland Department of Transportation (MDOT) No. 357 aggregate.

Once the road is completed, OHM will utilize a hydraulic excavator to direct load the ash into awaiting tri-axle dump trucks. As the loading progresses, a CAT D6 dozer will be utilized to push material to the excavator. The dozer will also be utilized to fine grade the base of the excavation, and to ensure that visual evidence of ash is removed from the site.

3.6 Contaminated Soil Removal

OHM will utilize a rubber-tired backhoe to remove the contaminated soil at Building 683 and Water Towers 689 and 1054. The initial excavation at each site will consist of the removal of a 6-inch thick layer of contaminated soil. The backhoe will directly load the excavated material into the roll-offs located at or near the loadout areas shown in Figures 6, 7, and 8. Once the initial excavation is completed, an OHM sample technician will obtain confirmation samples as discussed in Section 3.7. The limits of the asphalt apron at Building 683 will be field verified, and the apron will be cleaned (if necessary) in lieu of excavated.

3.7 Verification Sampling and Analysis

Verification soil samples will be obtained from each of the three excavations and the area of the Ash Pile after its removal. The procedures for obtaining, packaging, shipping, and analyzing the verification samples are discussed in the supporting documents mentioned in Section 2.0 of this Addendum. The site-specific details are presented below.

3.7.1 Ash Pile

The Ash Pile occupies an area of approximately 1/2 acre in size and consists of nonhazardous bottom ash. There is a distinctive color difference between the ash and underlying soil which will make its removal easier to monitor. Once the pile is removed, soil samples will be obtained. A total of



8 locations (Figure 5) (where the pile was removed) will be sampled from ground surface to 6 inches below ground. Each of the 8 samples will consist of a composite of 5 grab samples from around each location. These 8 composites will be sent to the fixed-base laboratory for total petroleum hydrocarbon (TPH) analysis. This analysis will include the full range of hydrocarbons including diesel, gasoline, and lubricating oil. An action level of 100 parts per million (ppm) TPH has been selected for the Ash Pile removal, and remaining soil containing TPH results above this action level will require removal.

3.7.2 <u>Building 683</u>

At present, the action levels for the individual pesticide compounds are being established by the Navy, EPA, and MDE. DDT will be used as an indicator parameter and will be field monitored using a field sampling kit. The results of the field sampling kits will be used to assist in the excavation activities. This will reduce the amount of samples sent to the laboratory, thus reducing the turnaround time and delays associated with it. During excavation, composite samples will be obtained from each excavated grid and field screened. During compositing split samples will be obtained for off-site analysis. When each grid reaches the acceptable cleanup level for DDT using the field test kits, the split sample will be acceptable for laboratory analysis. Approximately 50 percent of the acceptable splits will be sent to the laboratory for analysis of all contaminants for which cleanup levels have been established for this project. Chip samples will be obtained from the asphalt apron at Building 683. The chip samples will be analyzed at an approved off-site laboratory.

3.7.3 Water Towers 689 and 1054

Three-point composite soil samples will be obtained within each excavated grid using the sampling procedures discussed in Section 3.1. The composite samples will be analyzed for total lead at a fixed-base laboratory and results compared to the composite lead action level of 300 mg/kg. The sampling grids shown in Figures 3 and 4 may require expanding if the results of the perimeter grids exceed the action level. If the grids are expanded beyond the third level shown on these figures, then each grid quadrant for all additional expansions will be subdivided into two equal sections. For example, if another 10-foot wide quadrant needs sampling beyond Quadrant SE-3, then instead of having an SE-4, this grid will be divided into SES-4 and SEE-4.

Based on the lead results of the composite soil sample, one of the following scenarios will be followed:



- If a three-point composite soil confirmation sample is less than 300 mg/kg total lead, no additional sampling or excavation is required in that particular grid.
- If a composite sample result is between 300 mg/kg and 400 mg/kg, a single discrete sample will be collected within the grid in question and analyzed for total lead. If this result is less than 1,000 mg/kg total lead, the results of the initial composite sample will be used and no additional sampling or excavation will be required for that grid. If, on the other hand, the discrete sample result is greater than 1,000 mg/kg, additional excavation and sampling will be required.
- If a composite sample is greater than 400 mg/kg for total lead, additional excavation followed by resampling and analysis will be required.

These scenarios have been developed in order to protect human health and the environment, maintain the removal schedule, and avoid excessive cost to the project.

3.8 Transportation and Disposal

The excavated ash material will be transported to an approved nonhazardous construction debris landfill. The pesticide material will be disposed of either by incineration, or at an approved disposal facility. The lead-contaminated soil will be disposed at an approved disposal facility.

3.9 Site Restoration and Demobilization

The following sections discuss the restoration activities that will be performed at each site.

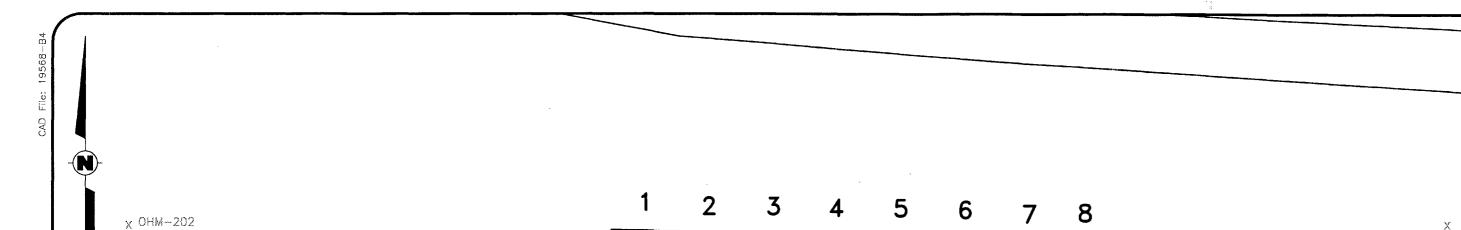
3.9.1 Water Towers and Ash Pile

When excavation activities are completed at each site, the site will be restored. OHM will place and compact common fill, from the on-site borrow area, in sufficient quantity to promote positive drainage away from each excavation area. The final grading plan will be developed once the final excavation limits are determined. The sites will then be seeded and mulched with the same seeding mix being utilized at the Old Landfill project. When vegetation is established, OHM will remove all E&S control structures.

3.9.2 Pesticide Shop

When pesticide cleanup levels have been attained, additional soils will be removed (if necessary) such that at least 7 (seven) inches of soil has been removed over the entire site. Four additional samples will be collected and analyzed using field test kits from those locations where previously highest contamination was identified by laboratory analysis.

FIGURES

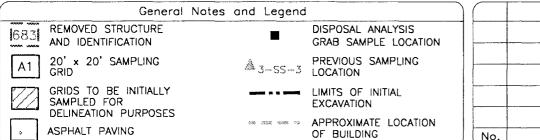


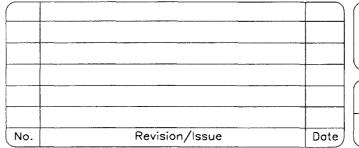
X OHM-202

3-SS-4 Db ۵ ۵ (SEE NOTE 1)_ В _,STORM, DRAIN SANITARY □ SEWER-0 MANHOLE (NO LID) D 3-SS-7 E FORMER PESTICIDE SHOP BUILDING CONCRETE PAD HHTTH HHTH G H GRASS AND ROCKS

- 1. SAMPLE TAKEN FROM STORM DRAIN.
- 2. THE ASPHALT WILL BE CHIP SAMPLED TO VERIFY THE CLEAN-UP CRITERIA IS BEING MET.
- 3. THE LOCATIONS SHOWN FOR 3-SS-1 AND 3-SS-2 ARE APPROXIMATE.







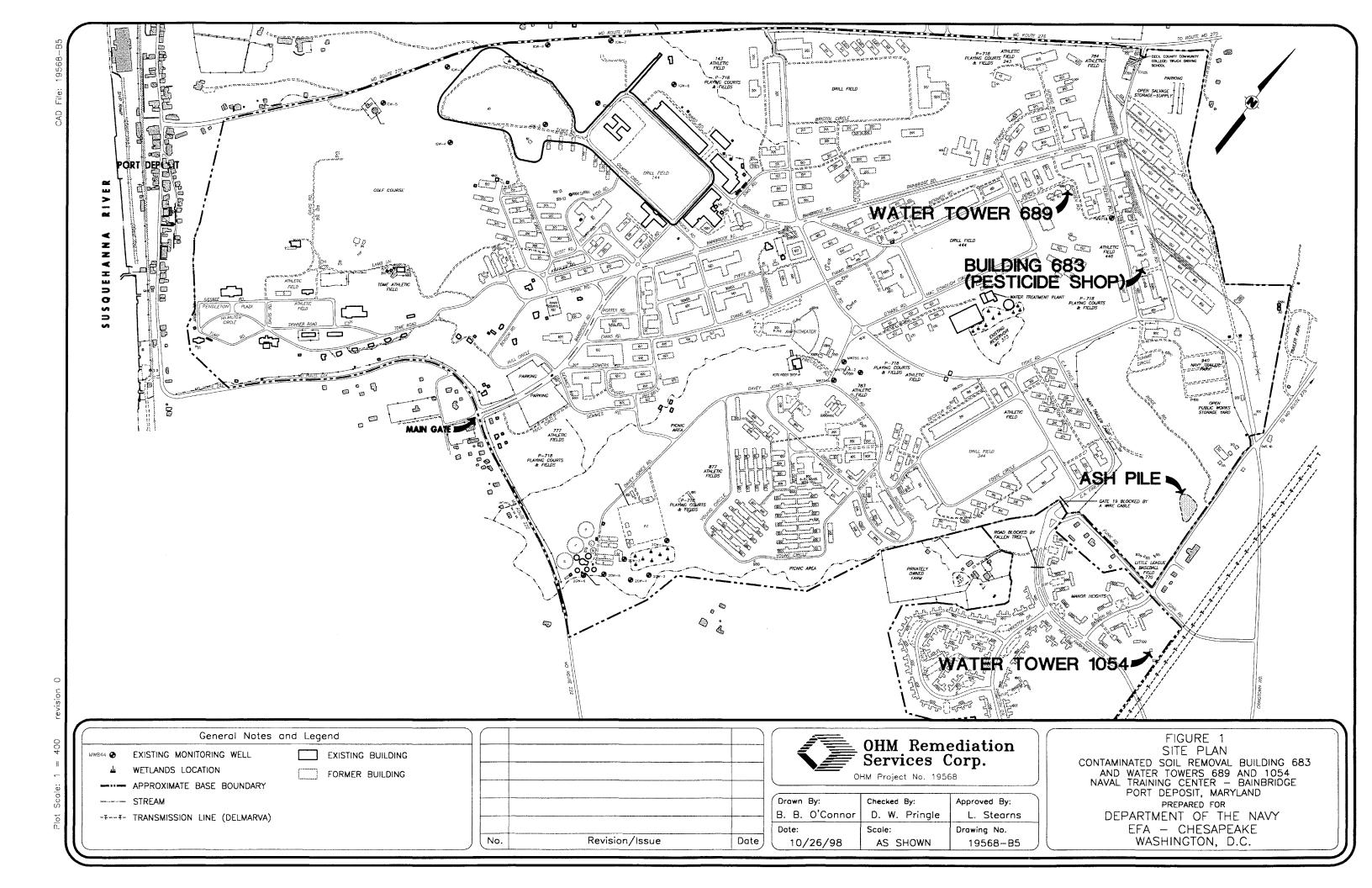
OHM Remediation Services Corp. OHM Project No. 19568

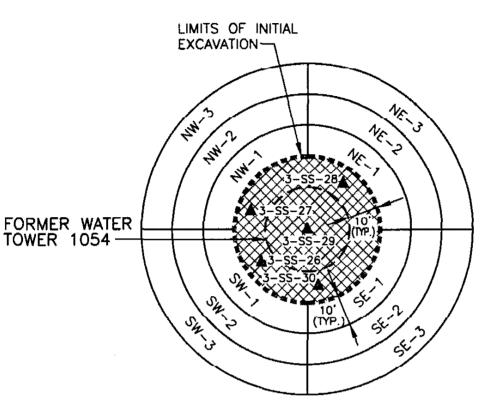
Drawn By:	Checked By:	Approved By:
R. WEIBLE	_	_
Date:	Scale:	Drawing No.
12/14/98	AS SHOWN	19568-B4

FIGURE 2

BUILDING 683 - SAMPLING PLAN CONTAMINATED SOIL REMOVAL BUILDING 683 AND WATER TOWERS 689 AND 1054
NAVAL TRAINING CENTER — BAINBRIDGE
PORT DEPOSIT, MARYLAND PREPARED FOR

> DEPARTMENT OF THE NAVY EFA - CHESAPEAKE WASHINGTON, D.C.





LEGEND:



REMOVED STRUCTURE AND IDENTIFICATION

SAMPLE GRID AND DESIGNATION



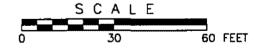
SOIL TO BE REMOVED TO A DEPTH OF 6 INCHES

3-SS-27 ▲

PREVIOUS SAMPLING LOCATION



NOTE: A 3 POINT COMPOSITE WILL BE OBTAINED FROM EACH SAMPLE GRID. EACH GRAB SAMPLE WILL BE OBTAINED FROM SURFACE TO A DEPTH OF 6 INCHES BELOW GROUND.





OHM Remediation Services Corp.

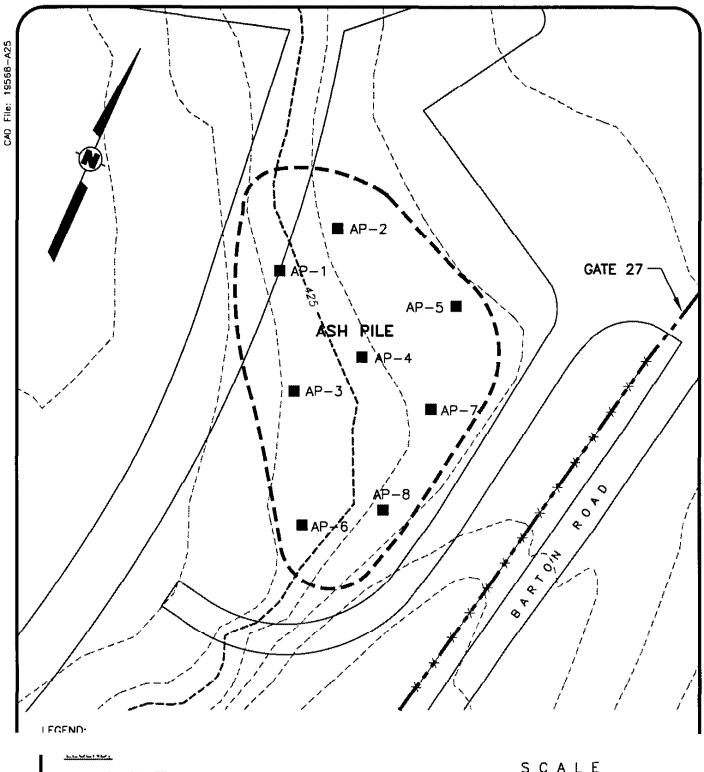
OHM Project No. 19568

Designed By	8.8.0 Connor 10/26/98 8.8.0 Connor 10/26/98	Scale:	Drawing No.	
Drawn By		10/25/98	AS SHOWN	19568-A24
Checked By	D.W.Pringle	10/26/98	Sheet No.	Rev.
Approved By	L.J.Steams	10/26/98		0

FIGURE 4

WATER TOWER 1054 — SAMPLING PLAN CONTAMINATED SOIL REMOVAL BUILDING 683 AND WATER TOWERS 689 AND 1054 NAVAL TRAINING CENTER — BAINBRIDGE PORT DEPOSIT, MARYLAND PREPARED FOR

> DEPARTMENT OF THE NAVY EFA - CHESAPEAKE WASHINGTON, D.C.



AP-1 COMPOSITE CONFIRMATION SAMPLE LOCATIONS (EACH SAMPLE WILL CONSIST OF 5 GRAB SAMPLES FROM EACH LOCATION)





OHM Remediation Services Corp.

OHM Project No. 19568

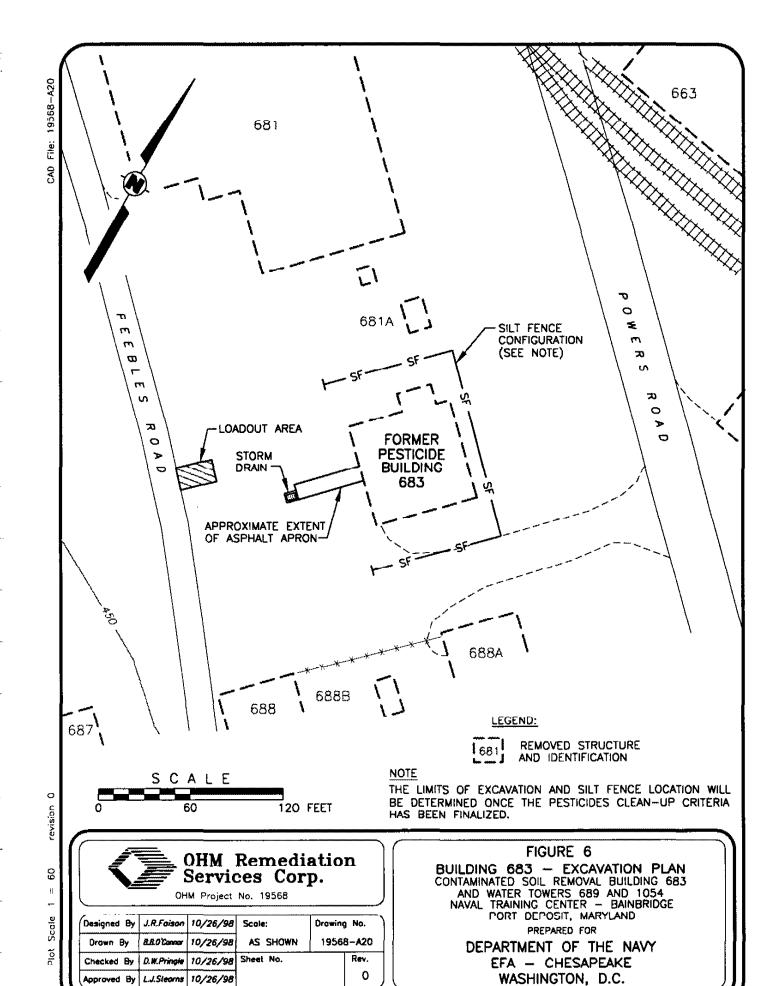
Designed By	J.R.Faison	11/17/98	Scale:	Drawing No.
Drawn By	B.B.O'Connor	11/17/98	AS SHOWN	19568-A25
Checked By	J.R.Faison	11/17/98	Sheet No.	Rev.
Approved By	L.J.Slearns	11/17/98		0

FIGURE 5

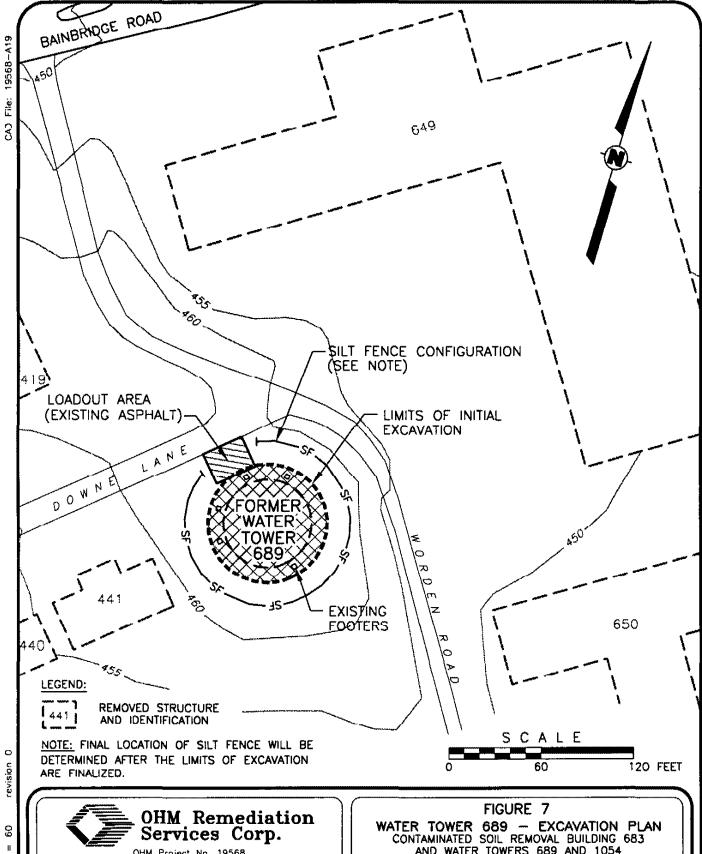
ASH PILE — SAMPLING PLAN
CONTAMINATED SOIL REMOVAL BUILDING 683
AND WATER TOWERS 689 AND 1054
NAVAL TRAINING CENTER — BAINBRIDGE
PORT DEPOSIT, MARYLAND
PREPARED FOR

DEPARTMENT OF THE NAVY EFA — CHESAPEAKE WASHINGTON, D.C.

Plot Scale: 1 = 60



oproved By



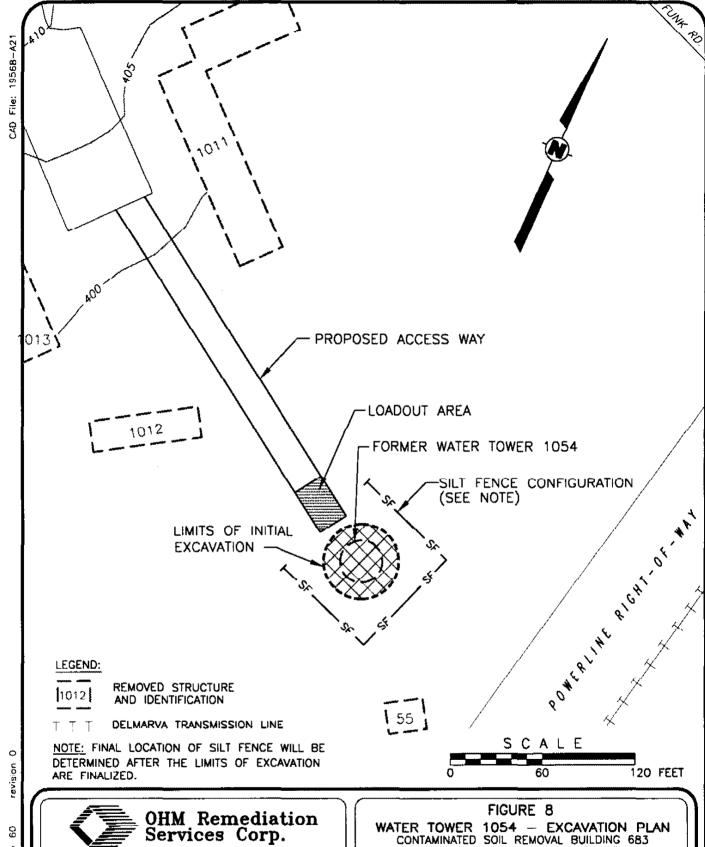
QHM Project No. 19568

Designed By	8.8.0 Connor	10/26/98	Scale:	Drawing No.
Drawn By	B.B.O'Connor	10/26/98	AS SHOWN	19568-A19
Checked By	D.W.Pringle	10/26/98	Sheet No.	Rev.
Approved By	L.J.Slearns	10/25/98		0

AND WATER TOWERS 689 AND 1054
NAVAL TRAINING CENTER - BAINBRIDGE
PORT DEPOSIT, MARYLAND PREPARED FOR

> DEPARTMENT OF THE NAVY EFA - CHESAPEAKE WASHINGTON, D.C.

Plot





OHM Project No. 19568

Designed By	8.8.0 Connor	10/26/98	Scale:	Drawing No.
Orown By	BBO'Connor	10/26/98	AS SHOWN	19568-A21
Checked By	D.W.Pringla	10/26/98	Sheet No.	Rev.
Approved By	L.J.Steams	10/26/98		0

WATER TOWER 1054 — EXCAVATION PLAN
CONTAMINATED SOIL REMOVAL BUILDING 683
AND WATER TOWERS 689 AND 1054
NAVAL TRAINING CENTER — BAINBRIDGE
PORT DEPOSIT, MARYLAND PREPARED FOR

> DEPARTMENT OF THE NAVY EFA - CHESAPEAKE WASHINGTON, D.C.

I Scole Plot

ATTACHMENT A

SHEETS ES-14 AND ES-14A

(previously submitted and approved as part of the E&S Control Plan for the Old Landfill Cap Repairs issued September 1998)

